Gu Test: A Progressive Measurement Of Generic Artificial Intelligence

Author: Lifan Gu□□□□□

Turing Test is invalid. It is subjective, just an empirical test, not a scientific experiment. Langauge conversations do not have a full coverage of human intelligence. Indistinguishablity between humans and computers by language conversations does not mean equivalence of intelligence.

Moreover, equivalence of intelligence between humans and computers can never be proved, but only can be falsified. Sciences are different from mathematics. Scientific experiements only can falsify, but never prove unlimited possiblities. If computers pass some tests, other people still could design new tests to disprove. Scientific research is an ongoing process, should always open to new experiments.

Scientific experiments should be done with strictly controlled conditions, to test the underlying principles. Scientific conclusions can only be derived from these principles based on the strict conditions, which is not possible in empirical tests.

So other existing empirical tests for AI technologies, such as the regular Go games played by AlphaGo Zero and other computer Go systems, the simulations and road tests of self-driving cars, the datasets for natural langauge understanding, etc. are also inadequate.

Technological Singularity is baseless. Driverless cars with no constrains (i.e. SAE level 5 automated driving) are impossible. There are problems in the definition of SAE level 4. In reality, there is no way to prove a car with SAE level 4 ability.

In this paper, I will discuss the problems in the testing of AlphoGo Zero, self-driving cars, natural langauge understanding. Then I will discuss the problems in the philosophical foundation and testing theory in the mainstream textbook AI: A Modern Approach. Then I propose Gu Test, a progressive measurement of generic artificial intelligence, based on

falsifiability, which could help to develop scientific intelligence theories gradually.